

REMARKS

Claims 1, 2, 4, 6, 7 and 10 were presented, examined and stand rejected. In response to the Office Action, Claims 1 and 6 are amended. No claims are added and no claims are cancelled. Claims 3, 5, 8 and 9 were previously cancelled. Claims 1, 2, 4, 6, 7 and 10 remain in the application. Reconsideration is respectfully requested in view of the foregoing amendments and the remarks that follow.

I. Rejection of the Claims under 35 U.S.C. § 112

Claims 1, 2, 4, 6, 7 and 10 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In response, the specification, as originally filed, complies with the enablement requirement. The specification discloses means for generating a digital error compensation signal to be injected into a channel for estimating a transfer function (page 10, lines 4-7 of originally filed application). The specification further discloses that “a transfer function of each channel ...is estimated. The inputted signal is multiplexed with the estimated transfer function in order to transfer the inputted signal to have identical characteristics until it reaches the array antenna” (page 12, lines 1-9 of originally filed application) and “there is an assumption that the transfer function of each transmitting channel is not varied when an error is compensated at the array transmitter” (page 12, lines 25-27 of originally filed application). Based on the specification, a person of ordinary skill in the art would understand that it is desirable to maintain the transfer function of each channel within a threshold (e.g., a pre-determined variation period). It is also disclosed in the specification that “as a result [of compensating the non-linearity], the transfer function of each transmitting channel is varied” (page 12, line 28 - page 13, line 5 of originally filed application). The claimed invention discloses a system and a method for overcoming the problem of varied transfer function by setting different updating periods for updating the error compensation coefficient and the estimated non-linear coefficient. The specification, as originally filed, clearly discloses how to update the error compensation coefficient (page 9, line 34 - page 11, line 5 of originally filed application), how to update the

estimated non-linear coefficient (page 11, lines 6-11 and page 12, lines 1-9 of originally filed application), and the relative speeds in updating the error compensation coefficient and the estimated non-linear coefficient (page 12, line 28 - page 13, line 5 of originally filed application). Therefore, the claimed subject matter, as described in the specification, enables a person of ordinary skill in the art to make and use the invention. Thus, the specification complies with the enablement requirement.

Therefore, Applicants respectfully request that the rejection to Claims 1, 2, 4, 6, 7 and 10 under 35 U.S.C. §112, first paragraph be withdrawn

II. Rejection of the Claims under 35 U.S.C. § 103

Claims 1, 2, 4, 6, 7 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the background of invention further in view of U.S. Publication No. 6,449,466 of Posti ("Posti").

To further clarify the invention, Applicants amend Claims 1 and 6 to include "array linearization means that uses the same feedback path as the array error compensation means." Support for the amendments can be found, for example, at page 4, lines 29-33 of originally filed application.

The Background describes a linearizing apparatus, which "is independently required to each transmitter for applying the linearizing method to a plurality of transmitters in the array antenna system. As a result, a manufacture cost is increased corresponding to the number of array antennas" (see, page 3, lines 3-17 of originally filed application). According to the Background, each channel requires an independent non-linear coefficient extractor for extracting a non-linear coefficient for that channel (see, Figure 2). Figures 1 and 2 in the Background show that the array linearizer (in block 109) does not use the same feedback path as the array error compensator 108, as required by the amended claims.

Posti discloses an adaptive predistorter, which does not have an array error compensator. Thus, since Posti fails to describe the claimed array error compensator, it cannot disclose an array linearization means that uses this same array error compensator. Therefore, Posti does not supply the missing elements in the Background with respect to the amended limitations of Claims 1 and 6.

Further, neither the Background nor Posti disclose that the updating periods of the error compensation coefficient and the estimated non-linear coefficient are set such that "the transfer function of each channel is maintained within a pre-determined variation period", as set forth in independent claims 1 and 6, as amended. Support for the amendment can be found, for example, at page 12, line 28 to page 13, line 5 of the application as originally filed. Therefore, since these positively recited claim elements are not disclosed by Background or Posti, amended Claims 1 and 6 are non-obvious over the cited references.

For at least the foregoing reasons, Claims 1, 2, 4, 6, 7 and 10 are non-obvious over the background of the invention further in view of Posti. Accordingly, withdrawal of the rejection of Claims 1, 2, 4, 6, 7 and 10 is requested.

CONCLUSION

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

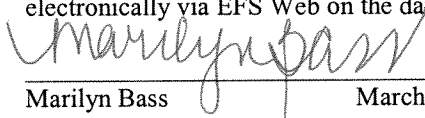
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